

WHAT IS CLAIMED IS:

1. A method of forming a complex, said method comprising:  
contacting a chemokine with a chemokine-binding agent comprising a polypeptide selected from the group consisting of THAP-1, a polypeptide having at least 30% amino acid identity to THAP-1, a chemokine-binding domain of THAP-1 and a polypeptide having at least 30% amino acid identity to a chemokine-binding domain of THAP-1, wherein said chemokine and said chemokine binding agent form a complex.
2. The method of Claim 1, wherein said amino acid identity is determined using an algorithm selected from the group consisting of XBLAST with the parameters, score=50 and wordlength=3, Gapped BLAST with the default parameters of XBLAST, and BLAST with the default parameters of XBLAST.
3. The method of Claim 1, wherein said polypeptide is fused to an Fc region of an immunoglobulin.
4. The method of Claim 1, wherein said polypeptide comprises a THAP dimerization domain.
5. The method of Claim 4, wherein said THAP dimerization domain interacts with one or more THAP dimerization domains to form a THAP oligomer.
6. The method of Claim 1, wherein said polypeptide is a recombinant polypeptide.
7. The method of Claim 1, wherein said chemokine is selected from the group consisting of SLC, CCL19, CCL5, CXCL9 and CXCL10.
8. The method of Claim 1, wherein said chemokine is selected from the group consisting of SLC, CCL19 and CXCL9.
9. The method of Claim 1, wherein said polypeptide comprises THAP-1.
10. The method of Claim 9, wherein said THAP-1 comprises the amino acid sequence of SEQ ID NO: 3.
11. The method of Claim 1, wherein said polypeptide comprises a polypeptide having at least 30% amino acid identity to THAP-1.
12. The method of Claim 1, wherein said polypeptide comprises a chemokine-binding domain of THAP-1.

13. The method of Claim 12, wherein said chemokine-binding domain of THAP-1 comprises the amino acid sequence of amino acids 143-213 of SEQ ID NO: 3.

14. The method of Claim 1, wherein said polypeptide comprises a polypeptide having at least 30% amino acid identity to a chemokine-binding domain of THAP-1.

15. A method of inhibiting the activity of a chemokine, said method comprising contacting a chemokine with an effective amount of an agent comprising a polypeptide selected from the group consisting of THAP-1, a polypeptide having at least 30% amino acid identity to THAP-1, a chemokine-binding domain of THAP-1 and a polypeptide having at least 30% amino acid identity to a chemokine-binding domain of THAP-1, wherein the activity of said chemokine is inhibited.

16. The method of Claim 15, wherein said amino acid identity is determined using an algorithm selected from the group consisting of XBLAST with the parameters, score=50 and wordlength=3, Gapped BLAST with the default parameters of XBLAST, and BLAST with the default parameters of XBLAST.

17. The method of Claim 15, wherein said polypeptide is fused to an Fc region of an immunoglobulin.

18. The method of Claim 15, wherein said polypeptide comprises a THAP dimerization domain.

19. The method of Claim 18, wherein said THAP dimerization domain interacts with one or more THAP dimerization domains to form a THAP oligomer.

20. The method of Claim 15, wherein said polypeptide is a recombinant polypeptide.

21. The method of Claim 15, wherein said polypeptide binds to a chemokine selected from the group consisting of SLC, CCL19, CCL5, CXCL9 and CXCL10.

22. The method of Claim 15, wherein said polypeptide binds to a chemokine selected from the group consisting of SLC, CCL19 and CXCL9.

23. The method of Claim 15, wherein said polypeptide comprises THAP-1.

24. The method of Claim 23, wherein said THAP-1 comprises the amino acid sequence of SEQ ID NO: 3.

25. The method of Claim 15, wherein said polypeptide comprises a polypeptide having at least 30% amino acid identity to THAP-1.

26. The method of Claim 15, wherein said polypeptide comprises a chemokine-binding domain of THAP-1.

27. The method of Claim 26, wherein said chemokine-binding domain of THAP-1 comprises the amino acid sequence of amino acids 143-213 of SEQ ID NO: 3.

5 28. The method of Claim 15, wherein said polypeptide comprises a polypeptide having at least 30% amino acid identity to a chemokine-binding domain of THAP-1.

29. A method of reducing inflammation comprising administering an effective amount of a chemokine binding agent to a subject afflicted with an inflammatory condition, wherein said chemokine-binding agent comprises a polypeptide selected from the group consisting of THAP-1, a polypeptide having at least 30% amino acid identity to THAP-1, a chemokine-binding domain of THAP-1 and a polypeptide having at least 30% amino acid identity to a chemokine-binding domain of THAP-1.

15 30. The method of Claim 29, wherein said amino acid identity is determined using an algorithm selected from the group consisting of XBLAST with the parameters, score=50 and wordlength=3, Gapped BLAST with the default parameters of XBLAST, and BLAST with the default parameters of XBLAST.

31. The method of Claim 29, wherein said polypeptide is fused to an Fc region of an immunoglobulin.

32. The method of Claim 29, wherein said polypeptide comprises a THAP dimerization domain.

33. The method of Claim 32, wherein said THAP dimerization domain interacts with one or more THAP dimerization domains to form a THAP oligomer.

25 34. The method of Claim 29, wherein said polypeptide is a recombinant polypeptide.

35. The method of Claim 29, wherein said polypeptide binds to a chemokine selected from the group consisting of SLC, CCL19, CCL5, CXCL9 and CXCL10.

36. The method of Claim 29, wherein said polypeptide binds to a chemokine selected from the group consisting of SLC, CCL19 and CXCL9.

37. The method of Claim 29, wherein said polypeptide comprises THAP-1.

38. The method of Claim 37, wherein said THAP-1 comprises the amino acid sequence of SEQ ID NO: 3.

39. The method of Claim 29, wherein said polypeptide comprises a polypeptide having at least 30% amino acid identity to THAP-1.

5 40. The method of Claim 29, wherein said polypeptide comprises a chemokine-binding domain of THAP-1.

41. The method of Claim 40, wherein said chemokine-binding domain of THAP-1 comprises the amino acid sequence of amino acids 143-213 of SEQ ID NO: 3.

10 42. The method of Claim 29, wherein said polypeptide comprises a polypeptide having at least 30% amino acid identity to a chemokine-binding domain of THAP-1.

15 43. A method of reducing one or more symptoms associated with an inflammatory disease, said method comprising administering to a subject afflicted with said inflammatory disease a therapeutically effective amount of an agent which reduces or eliminates the activity of one or more chemokines, wherein said agent comprises a polypeptide selected from the group consisting of THAP-1, a polypeptide having at least 30% amino acid identity to THAP-1, a chemokine-binding domain of THAP-1 and a polypeptide having at least 30% amino acid identity to a chemokine-binding domain of THAP-1.

20 44. The method of Claim 43, wherein said polypeptide is fused to an Fc region of an immunoglobulin.

45. The method of Claim 43, wherein said polypeptide comprises a THAP dimerization domain.

25 46. The method of Claim 45, wherein said THAP dimerization domain interacts with one or more THAP dimerization domains to form a THAP oligomer.

47. The method of Claim 43, wherein said polypeptide is a recombinant polypeptide.

48. The method of Claim 43, wherein said polypeptide binds to a chemokine selected from the group consisting of SLC, CCL19, CCL5, CXCL9 and CXCL10.

30 49. The method of Claim 43, wherein said polypeptide binds to a chemokine selected from the group consisting of SLC, CCL19 and CXCL9.

50. The method of Claim 43, wherein said polypeptide comprises THAP-1.

51. The method of Claim 50, wherein said THAP-1 comprises the amino acid sequence of SEQ ID NO: 3.

52. The method of Claim 43, wherein said polypeptide comprises a polypeptide having at least 30% amino acid identity to THAP-1.

5 53. The method of Claim 43, wherein said polypeptide comprises a chemokine-binding domain of THAP-1.

54. The method of Claim 53, wherein said chemokine-binding domain of THAP-1 comprises the amino acid sequence of amino acids 143-213 of SEQ ID NO: 3.

10 55. The method of Claim 43, wherein said polypeptide comprises a polypeptide having at least 30% amino acid identity to a chemokine-binding domain of THAP-1.

56. The method of Claim 43, wherein said inflammatory disease is arthritis.

57. The method of Claim 43, wherein said inflammatory disease is inflammatory bowel disease.

15 58. A method of detecting a chemokine, said method comprising:  
contacting a chemokine with a chemokine-binding agent comprising a polypeptide selected from the group consisting of THAP-1, a polypeptide having at least 30% amino acid identity to THAP-1, a chemokine-binding domain of THAP-1 and a polypeptide having at least 30% amino acid identity to a chemokine-binding domain of THAP-1; and

20 detecting chemokine-binding agent bound to said chemokine.

59. The method of Claim 58, wherein chemokine is selected from the group consisting of SLC, CCL19, CCL5, CXCL9 and CXCL10.

25 60. The method of Claim 58, wherein said chemokine is selected from the group consisting of SLC, CCL19 and CXCL9.

30 61. A detection system comprising a chemokine-binding agent comprising a polypeptide selected from the group consisting of THAP-1, a polypeptide having at least 30% amino acid identity to THAP-1, a chemokine-binding domain of THAP-1 and a polypeptide having at least 30% amino acid identity to a chemokine-binding domain of THAP-1, wherein said chemokine-binding agent is coupled to a solid support.

62. The detection system of Claim 61, wherein said polypeptide comprises THAP-1.

63. The detection system of Claim 62, wherein said THAP-1 comprises the amino acid sequence of SEQ ID NO: 3.

64. The detection system of Claim 61, wherein said polypeptide comprises a polypeptide having at least 30% amino acid identity to THAP-1.

5 65. The detection system of Claim 61, wherein said polypeptide comprises a chemokine-binding domain of THAP-1.

66. The detection system of Claim 65, wherein said chemokine-binding domain of THAP-1 comprises the amino acid sequence of amino acids 143-213 of SEQ ID NO: 3.

10 67. The detection system of Claim 61, wherein said polypeptide comprises a polypeptide having at least 30% amino acid identity to a chemokine-binding domain of THAP-1.

68. A pharmaceutical composition comprising a chemokine-binding agent in a pharmaceutically acceptable carrier, wherein said chemokine-binding agent comprises a polypeptide selected from the group consisting of THAP-1, a polypeptide having at least 30% amino acid identity to THAP-1, a chemokine-binding domain of THAP-1 and a polypeptide having at least 30% amino acid identity to a chemokine-binding domain of THAP-1.

15 69. The pharmaceutical composition of Claim 68, wherein said amino acid identity is determined using an algorithm selected from the group consisting of XBLAST with the parameters, score=50 and wordlength=3, Gapped BLAST with the default parameters of XBLAST, and BLAST with the default parameters of XBLAST.

70. The pharmaceutical composition of Claim 68, wherein said polypeptide is fused to an Fc region of an immunoglobulin.

25 71. The pharmaceutical composition of Claim 68, wherein said polypeptide comprises a THAP dimerization domain.

72. The pharmaceutical composition of Claim 71, wherein said THAP dimerization domain interacts with one or more THAP dimerization domains to form a THAP oligomer.

30 73. The pharmaceutical composition of Claim 68, wherein said polypeptide binds to a chemokine selected from the group consisting of SLC, CCL19, CCL5, CXCL9 and CXCL10.

74. The pharmaceutical composition of Claim 68, wherein said polypeptide binds to a chemokine selected from the group consisting of SLC, CCL19 and CXCL9.
75. The pharmaceutical composition of Claim 68, wherein said polypeptide comprises THAP-1.
- 5 76. The pharmaceutical composition of Claim 75, wherein said THAP-1 comprises the amino acid sequence of SEQ ID NO: 3.
77. The pharmaceutical composition of Claim 68, wherein said polypeptide comprises a polypeptide having at least 30% amino acid identity to THAP-1.
78. The pharmaceutical composition of Claim 68, wherein said polypeptide  
10 comprises a chemokine-binding domain of THAP-1.
79. The pharmaceutical composition of Claim 78, wherein said chemokine-binding domain of THAP-1 comprises the amino acid sequence of amino acids 143-213 of SEQ ID NO: 3.
80. The pharmaceutical composition of Claim 68, wherein said polypeptide  
15 comprises a polypeptide having at least 30% amino acid identity to a chemokine-binding domain of THAP-1.
81. A device for administering an agent, said device comprising a container that contains therein a chemokine-binding agent in a pharmaceutically acceptable carrier, wherein said chemokine-binding agent comprises a polypeptide selected from  
20 the group consisting of THAP-1, a polypeptide having at least 30% amino acid identity to THAP-1, a chemokine-binding domain of THAP-1 and a polypeptide having at least 30% amino acid identity to a chemokine-binding domain of THAP-1.
82. The device according to Claim 81, wherein said container is a syringe.
83. The device according to Claim 81, wherein said container is a patch for  
25 transdermal administration.
84. The device according to Claim 81, wherein said container is pressurized canister.
85. A kit comprising:  
a chemokine-binding agent comprising a polypeptide selected from the  
30 group consisting of THAP-1, a polypeptide having at least 30% amino acid identity to THAP-1, a chemokine-binding domain of THAP-1 and a polypeptide

having at least 30% amino acid identity to a chemokine-binding domain of THAP-1; and

instructions for using said chemokine-binding agent for detecting or inhibiting chemokines.

5           86.    The kit of Claim 85, wherein said chemokine is selected from the group consisting of SLC, CCL19, CCL5, CXCL9 and CXCL10.

87.    An isolated or purified chemokine-binding domain consisting essentially of a portion of SEQ ID NO: 3 that binds to a chemokine.

10           88.    The isolated or purified chemokine-binding domain of Claim 87, wherein said chemokine is CCL19.

89.    The isolated or purified chemokine-binding domain of Claim 87, wherein said chemokine is CCL5.

90.    The isolated or purified chemokine-binding domain of Claim 87, wherein said chemokine is CXCL9.

15           91.    The isolated or purified chemokine-binding domain of Claim 87, wherein said chemokine is CXCL10.